

IN THE CLAIMS:

Please amend claims 1, 9 and 12, and cancel claims 2 and 10 without prejudice or disclaimer.

Claim 1 (Currently Amended): An electric field alignment method of a ferroelectric liquid crystal display device including a liquid crystal panel having a plurality of data lines, a plurality of gate lines and a plurality of thin film transistors arranged in a zigzag configuration between adjacent data lines of the data lines and having a ferroelectric liquid crystal material, comprising:

~~connecting a plurality of thin film transistors arranged along a first direction to a plurality of data lines in an offset configuration between adjacent data lines;~~

supplying a gate ~~turn-ON~~ voltage at a level greater than a threshold voltage of the thin film transistors during an electric field alignment of the ferroelectric liquid crystal material ~~of the ferroelectric liquid crystal display device~~ to ~~[[a]]~~ the plurality of gate lines ~~arranged along a second direction, the electric field alignment of the ferroelectric liquid crystal material is performed in a period that the ferroelectric liquid crystal material is transitioned from a nematic phase to a smectic phase, wherein the gate voltage is supplied to the gate lines in a range of from ten to four-hundred times during the electric field alignment of the ferroelectric liquid crystal material; and~~

inverting a polarity of a data voltage for the electric field alignment every time
when the gate voltage is supplied to the gate lines and supplying the inverted data voltage
for the electric field alignment to the data lines ~~supplying voltages for electric field~~
~~alignment and of opposite polarity to the adjacent data lines during the electric field~~
~~alignment while constantly maintaining a voltage of a ferroelectric liquid crystal cell of~~
~~the ferroelectric liquid crystal display device during the electric field alignment, the~~
~~voltages for the electric field alignment being changed from electric field alignment data~~
~~signals and being analog gamma voltages,~~

wherein an electric field generated from the inverted data voltage is
applied to the ferroelectric liquid crystal material ~~[[cell]]~~ by using a leakage
current of the thin film transistors, and

~~wherein the turn ON voltage is supplied to each of the gate lines in a range~~
~~of from ten to four hundred times during the electric field alignment.~~

Claims 2 and 3 (Canceled).

Claim 4 (withdrawn): An electric field alignment method of a ferroelectric liquid crystal display device, comprising:

connecting a plurality of thin film transistors arranged along a first direction to a plurality of data lines arranging in an offset configuration between adjacent data lines;

supplying a voltage below a threshold voltage of the thin film transistors to a plurality of gate lines during an electric field alignment of ferroelectric liquid crystal material of the ferroelectric liquid crystal display device; and

supplying voltages of opposite polarity to adjacent data lines during the electric field alignment while maintaining a voltage of a ferroelectric liquid crystal cell of the ferroelectric liquid crystal display device during the electric field alignment.

Claim 5 (withdrawn): The electric field alignment method according to claim 4, wherein the ferroelectric liquid crystal cell operates in a Half V-Switching Mode.

Claim 6 (Canceled).

Claim 7 (withdrawn): An electric field alignment method of a ferroelectric liquid crystal display device, comprising:

connecting a plurality of thin film transistors arranged along a first direction to a plurality of data lines in an offset configuration adjacent data lines;

maintaining a plurality of gate lines in an electrically floating state during an electric field alignment of a ferroelectric liquid crystal material of the ferroelectric liquid crystal display device; and

supplying voltages of opposite polarity to the adjacent data lines during the electric field alignment while maintaining a voltage of a ferroelectric liquid crystal cell of the ferroelectric liquid crystal display device during the electric field alignment.

Claim 8 (withdrawn): The electric field alignment method according to claim 7, wherein the ferroelectric liquid crystal cell operates in a Half V-Switching Mode.

Claim 9 (Currently Amended): A ferroelectric liquid crystal display device, comprising:

a liquid crystal panel having a plurality of data lines, ~~[[and]]~~ a plurality of gate lines and a plurality of thin film transistors arranged in a zigzag ~~an offset~~ configuration between adjacent data lines of the data lines and having a ferroelectric liquid crystal material;

a gate driving circuit for supplying a gate turn-ON voltage to the plurality of gate lines, the gate turn-ON voltage set at a level above a threshold voltage of the thin film transistors during an electric field alignment of the ferroelectric liquid crystal material, the electric field alignment of the ferroelectric liquid crystal material is performed in a period that the ferroelectric liquid crystal material is transitioned from a nematic phase to a smectic phase, wherein the gate voltage is supplied to the gate lines in a range of from ten to four-hundred times during the electric field alignment of the ferroelectric liquid crystal material; and

a data driving circuit for inverting a polarity of a data voltage for the electric field alignment every time when the gate voltage is supplied to the gate lines and supplying the inverted data voltage for the electric field alignment to the data lines ~~controlling opposite polarity voltages for electric field alignment supplied to the adjacent data lines during the electric field alignment while constantly maintaining a voltage supplied to ferroelectric liquid crystal cells during the electric field alignment, the voltages for the electric field alignment being changed from electric field alignment data signals and being analog gamma-voltages,~~

wherein an electric field generated from the inverted data voltage is applied to the ferroelectric liquid crystal material ~~[[cell]]~~ by using a leakage current of the thin film transistors, ~~and~~

~~wherein the turn-ON voltage is supplied to each of the gate lines in a range of from ten to four hundred times during the electric field alignment.~~

Claims 10 and 11 (Canceled).

Claim 12 (Currently Amended): The ferroelectric liquid crystal display device according to claim 9, wherein the data driving circuit supplies [[video]] data voltage for displaying image having different polarities to the adjacent data lines during driving of the display device.

Claim 13 (withdrawn): A ferroelectric liquid crystal display device, comprising:

a liquid crystal panel having a plurality of data and gate lines and a plurality of thin film transistors arranged along a first direction in an offset configuration between adjacent data lines;

a gate driving circuit for supplying a voltage below a threshold voltage of the thin film transistors to the gate lines during an electric field alignment of ferroelectric liquid crystal material of the display device; and

a data driving circuit for controlling opposite polarity voltages supplied to the adjacent data lines during the electric field alignment while maintaining a voltage supplied to a ferroelectric liquid crystal cell during the electric field alignment.

Claim 14 (withdrawn): A ferroelectric liquid crystal display device, comprising:

a liquid crystal panel having a plurality of data and gate lines and a plurality of thin film transistors arranged along a first direction in an offset configuration between adjacent data lines; and

a data driving circuit for controlling opposite polarity voltages supplied to the adjacent data lines during an electric field alignment while maintaining a voltage supplied to a ferroelectric liquid crystal cell during the electric field alignment,

wherein the gate lines remain electrically floating during the electric field alignment.